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Indian Standard

(Reaffirmed 1997)

SPECIFICATION FOR NEURO-SUCTION TUBES

Neurosurgery Instruments Sectional Committee, CPDC 29 [Ref: Doc: CPDC 29 (1217)]

1. Scope — Dimensional and other requirements for neuro-suction tubes with stillette.

2. Size, Shape and Dimensions

2.1 The suction tubes shall be of the following sizes (inner diameter of tube):

2·4 mm, 2·8 mm, 3·2 mm, 3·6 mm, 4·0 mm and 4·8 mm.

2.2 The shape and dimensions shall be as shown in Fig. 1.

2.3 A deviation of ± 2·5 percent shall be allowed on all dimensions.

2.4 A deviation of ± 2° shall be allowed on the angular dimensions.

3. Material

3.1 *Suction Tube* — Stainless steel conforming to Designation 04Cr18Ni11 or 07Cr18Ni9 of IS : 1570 (Part V)-1972 ' Schedules for wrought steels: Part V Stainless and heat-resisting steels (*first revision*) ', in the form of seamless drawn tubing.

3.2 *Hub* — Free cutting brass rod or bar conforming to any grade of IS : 319-1974 ' Specification for free cutting brass bars, rods and sections (*first revision*) '.

3.3 *Stillette* — Stainless steel wire of 1·4 mm diameter (*see* IS : 6528-1972 Specification for stainless steel wire).

3.4 *Finger Valve* — Stainless steel plate (*see* IS : 6911-1972 Specification for stainless steel plate, sheet and strip).

4. Workmanship and Finish

4.1 The suction tube shall be smooth from outside and inside and shall be free from pits, tool marks, burrs and foreign matter. All sharp edges including the suction end shall be suitably rounded off.

4.2 The cannula (suction tube) shall be pushed well into the cavity of the hub and securely swaged. The cannula and the hub shall be concentric and well aligned.

4.3 The finger valve shall have a smooth concave surface with a hole in the centre on one side (opposite to the bend) to facilitate its closure with the help of a finger. It shall be soundly brazed with the cannula by silver brazing as shown in Fig. 1.

4.4 The stillette shall be smooth and free from foreign matter. Its free end shall be in the form of a bead of diameter slightly lesser than the inner diameter of cannula so that it can slide smoothly into the cannula. It shall also carry a suitably shaped thumb piece at the hub end to facilitate its handling.

4.5 The hub shall be nickel plated both inside and outside and polished. The plating shall be such as to withstand the corrosion resistance test prescribed in 5.2.

5. Tests

5.1 *Leakage Test* — Connect the suction tube to an air pump and block its free end and the finger valve effectively by suitable means. Now start the air pump [delivering air at a pressure of 100 kN/m^2 (1 kgf/cm^2)] and check for any leakage by dipping the pressurized suction tube into water and observing for any possible bubbles. There shall be no leakage during this test.

Adopted 26 March 1979

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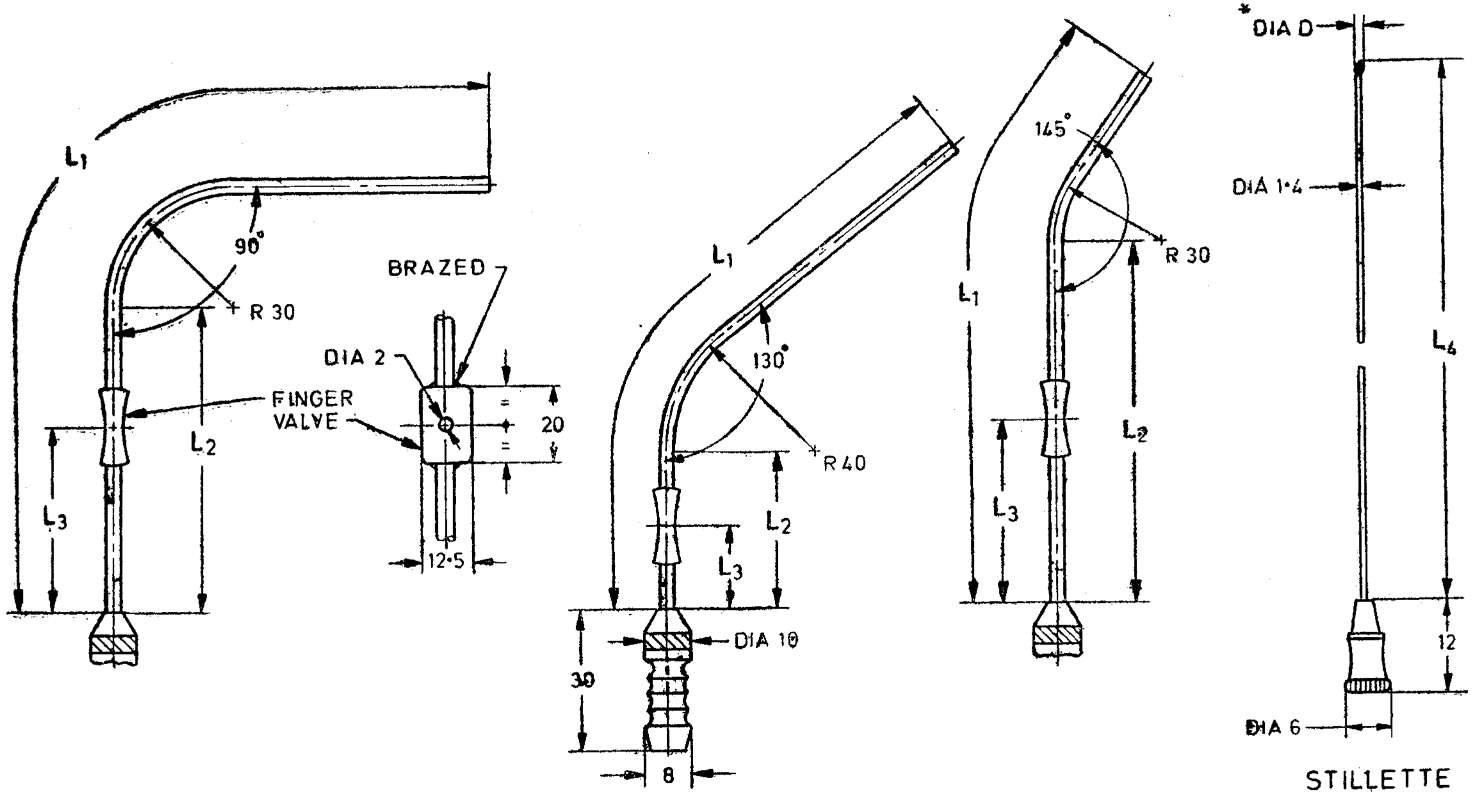

Dimension		90° Bend		130° Bend		145° Bend	
		Small	Large	Small	Large	Small	Large
Developed Length	L_1	140	190	140	190	140	190
	L_2	60	80	42	52	105	130
	L_3	40	50	30	40	40	50
	L_4	180	230	180	230	180	230

* DIA *D* To suit the internal diameter of the suction tube.

All dimensions in millimetres.

FIG. 1 NEURO-SUCTION TUBES

5.2 *Corrosion Resistance* — Immerse the complete suction tube in a 10 percent solution of citric acid at room temperature for 5 hours. Then boil it in distilled water for 30 minutes and cool it while immersed in the same for 48 hours.

5.2.1 No part of the suction tube shall show any sign of corrosion. The test shall be conducted in a glass container.

6. Marking — The suction tube shall be legibly and indelibly marked at a suitable place, with the manufacturer's name, initials or recognized trade-mark and its size.

6.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

7. Packing — Each suction tube shall be wrapped in a moisture-proof paper and put in a cardboard carton or polyethylene bag. The packing may also be done as agreed to between the purchaser and the supplier.

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